

Article

# Analysis of e-commerce problems and solutions from the perspective of policy actors in Indonesia

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**Abstract:** E-commerce is increasingly developing as a platform large and small companies use to carry out online transactions with consumers. However, the development of e-commerce is also fraught with new environmental problems. Various problems occur, such as data leaks and fraud in buying and selling transactions. This research aims to deepen the study of the e-commerce environment from the perspective of local policymakers, and this research completes a study on the analysis of e-commerce problems and solutions from the perspective of policy actors. The development of e-commerce still has an unsafe environment; the potential for fraud and data leakage is still significant, and a government response is needed, such as creating new regulations or revising existing regulations. This research uses qualitative analysis with a content analysis approach and national online news media as research data and information sources. Nvivo 12 Plus software was used to identify problems and solutions offered by actors in their narratives in the media. The results of this research show that data leaks and e-commerce have the potential to threaten the country's resilience, conventional businesses are threatened with closure, and policymakers are shifting responsibility for overcoming e-commerce problems. Current regulations still need to be made appropriately to overcome e-commerce problems.

**Keywords:** e-commerce; regulation; solutions; public policy

## 1. Introduction

Along with information and communication technology development, it is also part of the same moment for e-commerce (Jones, 2013). E-commerce prepares an online platform to attract micro and macro entrepreneurs to join in the activity of buying and selling their goods by promoting them to the wider community. E-commerce offers new methods in terms of services and buying and selling goods (Taherdoost, 2023).

E-commerce has become central to many business sectors (Hua, 2016), as evidenced by the growth of e-commerce worldwide, reaching 20.4% or \$5.424 trillion in 2022 (Cramer-flood, 2021). Shopping under the e-commerce concept produces many advantages, such as more flexible, fast, and comfortable times for sellers and buyers. Seller skills are necessary to understand customer needs and increase the attraction of returning to buy (Oliveira et al., 2017). E-commerce not only attracts consumers and customers in terms of business but also attracts the attention of academics as business observers and researchers (Yuan et al., 2018).

E-commerce development occurred quickly from the beginning of the 2nd century due to increasing network infrastructure (Uzoka et al., 2007). E-commerce

has developed in various developed countries to compete internationally, and e-commerce has had various experiences on how to find new customers and retain existing customers (Fang et al., 2014). The use of information and communication technology makes business organizations develop faster. At the end of the twentieth century, the development of more advanced e-commerce began to be seen by drastically revolutionizing people's lifestyles and commerce (MacGregor and Vrazalic, 2005). The high level of public participation in internet use worldwide has spurred people to use computers, laptops, and smartphones in the online shopping process at any time. Online sellers can divert public attention by enticing customers to continue buying transactions online. Using online transactions makes it easier for sellers to reach customers quickly and continuously (Behl et al., 2019). Sellers are facilitated by using e-commerce methods with less infrastructure and labor compared to traditional business models (Behl et al., 2019).

The great Internet network infrastructure has succeeded in changing traditional business models to new ones, which can ultimately influence people's lifestyles in meeting their needs, the most prominent influence being the fast shopping process and very extensive cooperation (Liu et al., 2019). As a result of this enormous development, e-commerce has moved in a dynamic and competitive environment. Competition between sales is increasing, starting from large price reductions to providing better quality. Good sales and low prices can influence consumers to make decisions. On the other hand, sellers analyze consumer needs by tracking customer capabilities using big data (Chong et al., 2017).

Indonesia is also part of a country that accepts the presence of e-commerce in the business world. Online transactions in Indonesia are still under supervision in terms of applicable law. Because the progress of the e-commerce world also coincides with the crime rate. Online transaction crime is very high, and some people try to take advantage of online crime to fulfill their needs (Prasetyo et al., 2021). The growth of e-commerce can go faster, but it will also be followed by a new type of crime in the digital field, commonly called cybercrime in economic crime (Ramadhan et al., 2020). Also, new problems, such as data leakage originating from online trading when browsing the internet, have the potential for consumer data leakage (Ady et al., 2022).

The issue of e-commerce viewed from a legal perspective has been examined by several experts. Research on consumer protection in the e-commerce business in Oman found that empirical data still needs to be discussing consumer protection issues (Belwal et al., 2021). Research discussing security in e-commerce systems in modern society finds results that e-commerce practices can be potential for security threats and online fraud attacks, so this research recommends that the government increase regulations for securing and protecting e-commerce transactions (Pleskach et al., 2021). The need for legal norms in e-commerce transactions is needed by sellers and buyers (Nuruddeen and Yusof, 2021). The growth of e-commerce must be accompanied by well-established legal arrangements to survive data security threats (Chawla and Kumar, 2021). Promoting the consumer experience on social media or e-commerce comment pages can affect buyer interest and a sense of security (Puchkovska et al., 2021). Various articles discussing e-commerce from a legal review in minimizing crime still need to be filled with research that examines

the development and obstacles of e-commerce from a legal and regulatory perspective.

The research aims to reveal e-commerce problems and solutions narrated by actors who wish e-commerce to develop well in Indonesia while also ensuring the ability of existing regulations to overcome problems arising from e-commerce. Firstly, this research discusses the approach taken in obtaining research data. The second stage of this research discusses the development of e-commerce and looks at the problems that arise in society. The third research stage discusses solutions narrated by actors to solve e-commerce problems. Finally, this research explains Indonesian regulations that regulate the space for e-commerce activities.

## **2. Literature review**

### **2.1. E-commerce and platform**

Electronic commerce (e-commerce) is increasing, and e-commerce platforms have become a public habit in everyday life as a place to market business results or buy certain products. It is predicted that e-commerce will be able to reach the trillion dollar mark in 2026, an extraordinary comparison that could be up to four times compared to 2014 (Chevalier, 2022; eMarketer, 2022). Several e-commerce platforms have hundreds of millions of active users, such as Amazon, Alibaba, eBay, Etsy, and online auctions (Amazon, 2023; Group, 2021). Several online platforms are available, so users are given various options to sell or buy various products with each other, such as daily necessities (McCormick, 2022). Data shows that 25 million people have used e-commerce platforms as a primary or secondary source of income (Infographich, 2018). E-commerce platform users can provide assessments of purchased products, such as product quality (Mudambi and Schuff, 2010).

Furthermore, many e-commerce platforms use a reputation system for buyers who want to provide feedback on purchased products (Resnick et al., 2000). All feedback from each seller has helped other users build buyers' trust in the products offered (Resnick et al., 2000). Sellers can receive effects from the results of buyers' assessments, which can be measured from feedback obtained on the platform (Majadi et al., 2016). In some cases, sellers receive a poor assessment of the product service provided, and the operator can terminate the sales permit from the platform, such as Facebook, which filters business advertisements for sellers who receive large negative feedback from buyers (Safdar, 2018).

So far, e-commerce has only focused on buying and selling, but there is another side to the value of e-commerce, not just financial transactions. E-commerce is also included in the non-financial mode: the interaction between companies and consumers (Chaffey, 2007). Financial transactions can be considered electronic commerce if they always use the World Wide Web in the transaction cycle (Mohapatra and Mohapatra, 2013; Zheng et al., 2009). Some of the current e-commerce literature, which has developed in various loci, including research (Ngai and Wat, 2002), states that e-commerce research is divided into three areas: implementation and support of e-commerce, technological issues such as security, and applications. Furthermore, e-commerce research is developing in the architectural sector (Aulkemeier et al., 2016), recommendation systems (Aulkemeier

et al., 2016), building consumer trust (Papadopouou et al., 2001), implementing e-commerce in certain regions (Vaithianathan, 2010), research on consumer behavior (Thomas et al., 2019).

Several studies have analyzed the history of e-commerce. One of them is research that analyzes how information technology can change e-commerce by creating production value based on business networks, such as Papadopouou et al. (2001) finding that e-commerce causes a digital transition. Furthermore, the research develops company character based on competitor and customer orientation, organizational understanding capabilities, management, success factors, and the impact of e-commerce on the company's global performance (Wu et al., 2003). Inconsistencies in the world of markets and technology will impact performance results. The business environment, such as regulations or processes in e-government services, company capacity, and supply chain capabilities, are included in the new antecedents in Robert and Toleman's model (Roberts and Toleman, 2007). Finally, research based on theoretical frameworks such as UTAUT, technology acceptance model (TAM), and a combination of acceptance theories (Wirtz and Göttel, 2016; Wang and Chou, 2014) differentiates based on their characteristics. Decision makers, innovations, and factors, environment (Ching and Ellis, 2004).

Several other online platforms, such as search applications, online social networks, and online games, have been found to use dishonest methods by manipulating platform statistical data for profit purposes (Kabus et al., 2005). In many cases, online platforms using third-party services as services have violated the platform's terms of service. Furthermore, it was discovered that fake accounts accompanied by fake retweets on Twitter social media had become a multi-million dollar business (Confessore et al., 2018). These fake buyers and followers provide fake reviews. Fake reviewer groups have thrived, then paid reviewers and people appointed as recipients of free products falsely (Symon, 2016; Woollacott, 2017). In the e-commerce environment, dishonest users are called skill bidders, who are constantly increasing.

E-commerce platforms are essential online frameworks that enable businesses to manage their sales and operations over the internet efficiently. E-commerce platforms are essential for modern business efficiency, offering intelligent matching, optimal business models, improved supply chain management, better customer understanding, impactful platform choices, and advanced technological solutions (Ferreira et al., 2019; Huang et al., 2019; Kim et al., 2018; S. I. Kim and Kim, 2022; Shikalgar et al., 2023; Wan and Chen, 2019). These platforms offer a variety of tools and functionalities to streamline the buying and selling process. E-commerce platforms are equipped with comprehensive product management and inventory control features that enhance business efficiency, improve customer satisfaction, and facilitate growth (Defiesta et al., 2020; Masaro et al., 2020; Parikshith and Natesan, 2023a; Pirani et al., 2017; Priyadharshini and Ilavarasi, 2023).

Advanced shopping cart and checkout systems in e-commerce platforms significantly enhance user experience by reducing checkout times, minimizing cart abandonment, and providing seamless and secure purchasing processes (Adwan et al., 2022; Anjos and Gontijo, 2017; Odeh and Direkoglu, 2020; Rifat et al., 2022; Sarwar et al., 2020). Integration of secure and efficient payment gateways in e-

commerce platforms facilitates various payment methods, enhancing transaction security, reducing costs, and improving user trust (S. I. Kim and Kim, 2022; Zilnieks and Erins, 2023). Additionally, order management features help track orders, process shipments, and handle returns and refunds. Effective customer management tools in e-commerce platforms facilitate personalized experiences, consistent CRM practices, and comprehensive data management, leading to enhanced customer satisfaction and business growth (Adisu Fanta and Ayman, 2022; Parikshith and Natesan, 2023).

E-commerce platforms use advanced marketing and SEO capabilities to effectively run promotions, manage discounts, and optimize for search engines, driving traffic, engagement, and sales (Ahmad et al., 2023; Lv et al., 2020; Purnomo, 2023; Zelenetska et al., 2023). Analytics and reporting tools are indispensable for businesses, providing critical insights that inform strategic decisions. These tools harness advanced data analysis and machine learning to transform raw data into actionable insights, driving business growth and efficiency (Bhoyar et al., 2023; Shah, 2018).

## **2.2. Consumer protection and trust in e-commerce**

Indonesia is experiencing a new trend in the digitalization sector. Buying and selling via digital is a new model in the business sector. These developments require renewal of the legal sector to cope with new developments in the business world. Some have analyzed digital legal issues, such as cybercrime legal issues and the development of e-commerce from a good governance perspective (Ferrari, 2022). Furthermore, to create a vibrant e-commerce environment, it is necessary to pay attention to trust and security, as research (Yeasmin and Wu, 2021) found that laws function strictly in preventing cybercrime, such as in the e-commerce domain. Ideal government regulations are carried out by collaborating with e-commerce platforms to store company data online (Anju, 2021).

The issue of consumer protection is the most trending issue in e-commerce throughout almost the world. E-commerce is used as a forum for buying and selling goods and services, which is facilitated electronically. By using electronic assistance, there are three important elements for consumer protection in e-commerce. Firstly, existing consumers need to have access to e-commerce. Second, in order to build consumer trust in e-commerce, there is a need for a transparent legal protection mechanism to control indications of fraudulent practices. The three government actors must supervise the buying and selling process with an effective compensation system (OECD, 2000).

In general, e-commerce consumers require personal data protection for their intended partners (Barnhizer, 2004). With the reason of relatively low bargaining power, it is agreed that the interests of consumers need to be considered. Shopping for goods online requires more trust than offline shopping (Nielsen, 2019). From the economic behavioral aspect, it is confirmed that trust is used as a motivation in buying and selling transactions, which can create high standards in fulfilling the relationship between seller and buyer (Pavlou, 2003). Trust is a big challenge in cross-border transactions, especially when one of the parties is in a weak jurisdiction. There could be a high potential for counterfeiting (Loannis et al., 2019).

Concentration in e-commerce regarding trust refers to the ability of one party to demonstrate trust in the form of risk-taking activities (Svare et al., 2020). A lack of trust can impact weak contract values, increased legal protection, and the potential for high losses and failure. So, trust in e-commerce transactions plays an important role in serving consumers.

Weak consumer trust in the electronic payment process is one of the negative parts of the e-commerce industry, and this problem occurs most often in the business world (Mangiaracina and Perego, 2009). Several reviews of literature relevant to e-commerce and consumer protection found that e-commerce has received very significant attention from state authorities, government agencies, trade associations, and other similar organizations (Belwal et al., 2021; Cortés, 2010).

### 3. Research method

This research uses qualitative analysis as a content analysis approach. Content analysis is a methodology that analyzes content related to controversial issues (Downe-Wamboldt, 1992). The content analysis approach makes it easier to research social sciences, such as analyzing data on contemporary issues (Serafini and Reid, 2019). Content analysis is a relevant approach in responding to e-commerce problems from the perspective of policy actors. We can develop many things using content analysis, especially the most trending issues in e-commerce development, and find solutions offered by actors in detail. This research chooses domestic online news media as a data source that covers broad information to be packaged more specifically. Narratives about an issue in reputable online news media are still a reference for information for the public today (Cui and Liu, 2016).

The data sources in this research come from news about e-commerce issues, analyzing media content, using keywords e-commerce issues. **Table 1** shows online news media that can refer to as source of information in this study.

**Table 1.** News media names and keywords.

No	Media	Keywords	News used	Year
(1)	Kompas.com	"E-commerce"	17 News	2017–2022
(2)	Tribunews.com		9 News	

Source; Author modification 2023.

Choosing Kompas.com and Tribunews.com as main data sources for content analysis research on e-commerce can be justified for several scientific reasons. Kompas.com and Tribunews.com, with their extensive readerships, ensure data reflecting widely consumed information and public opinion. Studies show that Kompas.com significantly influences public perception with its comprehensive, frequently updated news content (Awiyan and Mansur, 2021). Both platforms offer wide-ranging coverage on topics like e-commerce, consumer behavior, and market trends; for example, Kompas.com has been used to analyze educational news values (Nurhidayah and Wahyunengsih, 2023). They are reputable and trusted news sources in Indonesia, enhancing the credibility and reliability of content analyzed. Critical discourse analysis shows they present news accurately and objectively, crucial for

content analysis (Syartanti, 2021). Furthermore, they provide detailed economic reports, such as Gross Merchandise Value (GMV) and transaction volumes, forming a robust foundation for analyzing market trends and consumer behavior in the e-commerce sector (Kya Dewi Davina and Wahyunengsih, 2023). Both media outlets are widely recognized and respected in Indonesia for their comprehensive news coverage. They cover a broad spectrum of topics, including e-commerce, making them suitable for content analysis on this subject. The frequency and volume of publications are also significant, with Kompas.com having 17 relevant articles and Tribunews.com 9. This substantial number of articles indicates a significant amount of data available for analysis, which is crucial for ensuring robust and reliable research findings.

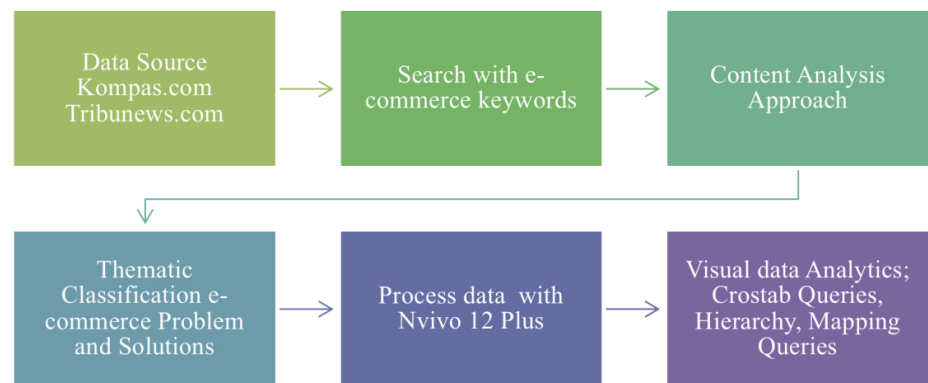
E-commerce companies in Indonesia are an important study subject in analyzing problems and solutions related to e-commerce from the perspective of policy makers. Companies such as Tokopedia, Bukalapak, Shopee, and Lazada, which are the main players in this industry, have quite a large role in the Indonesian digital ecosystem. These platforms have attracted millions of users, contributing to the rapid growth of e-commerce in the country (Zhang, 2021). Research on these companies includes analysis of business models, operational challenges, and regulatory compliance which exists. By understanding the dynamics and challenges faced by these e-commerce companies, policy makers can formulate more effective strategies and policies to support the sustainable and inclusive growth of the e-commerce industry in Indonesia. The selection of e-commerce companies in Indonesia as research subjects was based on several strong scientific reasons. First, companies such as Tokopedia, Bukalapak, Shopee, and Lazada play an important role in the Indonesian economy and digital transformation, influencing consumer behavior and supporting SMEs. Second, analyzing these companies can provide insight into market dynamics, technology adoption, and business innovation. third, understanding the interactions between these companies and various stakeholders can identify areas for improvement in policy.

We use two online news media to collect data by coding. We collected 17 news stories from Media Kompas.com and nine from media tribunews.com. We are collecting information using the keyword “e-commerce” and selecting news relevant to the research. Nvivo 12 plus software was used in this research to assist in coding and reducing data. The stages followed using the Nvivo12 plus software are media data retrieval, data import, coding, classification of issues and solutions, and presentation in visual form (Amri et al., 2023).

The following are several stages that we carry out in obtaining research data and producing visualization data. which can be seen in **Figure 1**.

**Figure 1** outlines a structured process for analyzing e-commerce problems and solutions using data from news websites. Initially, data is gathered from two major Indonesian news sources: Kompas.com and Tribunews.com. Using specific e-commerce-related keywords, relevant articles and information are searched for on these websites. The collected data then undergoes content analysis to identify patterns, themes, and insights regarding e-commerce issues. Following the content analysis, the identified problems and solutions are classified into thematic categories for better organization and understanding. To further process this data, Nvivo 12

Plus, a qualitative data analysis software, is utilized. This software helps in coding and organizing the data into nodes and themes. Finally, visual data analytics techniques, such as crosstab queries, hierarchy, and mapping queries, are applied to the processed data. These visualizations aid in understanding relationships and trends within the data, ultimately providing structured insights and facilitating better decision-making in the context of e-commerce. The diagram outlines a structured process for analyzing e-commerce problems and solutions using data from news websites. Initially, data is gathered from two major Indonesian news sources: Kompas.com and Tribunews.com. Using specific e-commerce-related keywords, relevant articles and information are searched for on these websites. The collected data then undergoes content analysis to identify patterns, themes, and insights regarding e-commerce issues.



**Figure 1.** Research flow framework.

Source: Author modification, 2023.

## 4. Result and discussion

### 4.1. Evolution of e-commerce issues in Indonesia

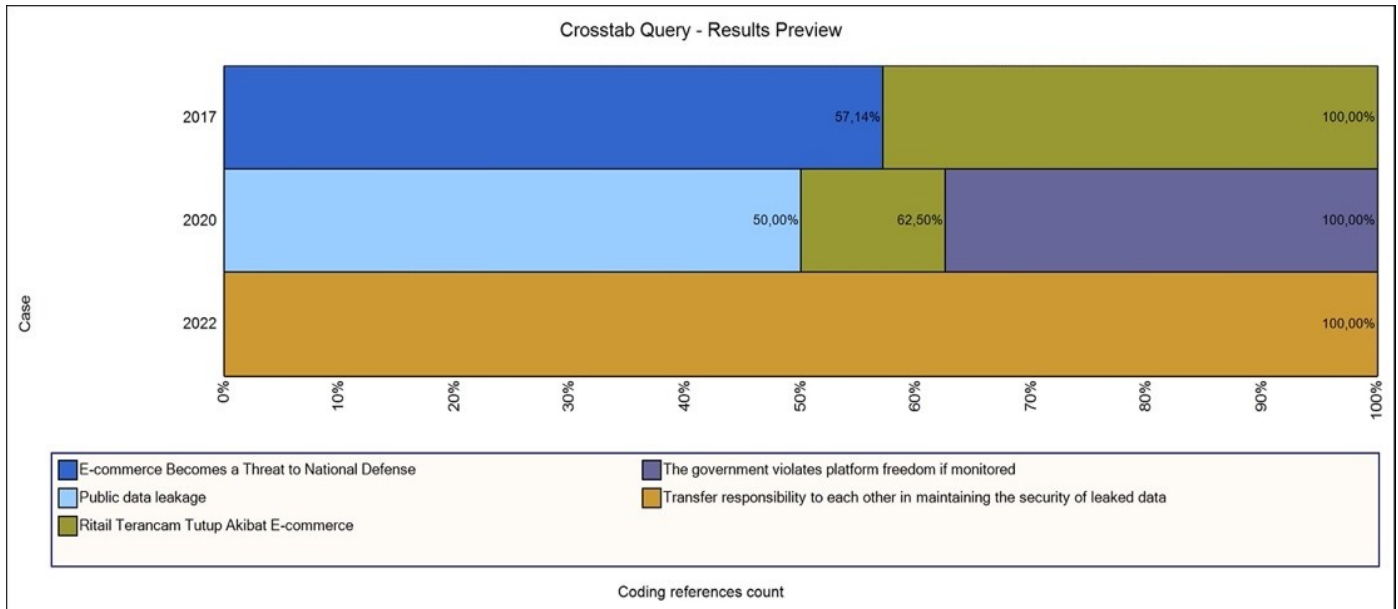
E-commerce, the buying and selling of goods and services over the internet, has revolutionized business operations and consumer shopping experiences. The growth of e-commerce has challenged traditional brick-and-mortar stores, forcing them to adapt by integrating online sales channels and enhancing in-store experiences (Hagberg et al., 2017). However, this sector faces various challenges that impact its growth and effectiveness. One significant issue is security concerns, including cybersecurity threats like hacking, phishing, and data breaches, which compromise customer data and transaction security. E-commerce platforms face continuous threats from hacking and malware attacks, which can lead to data breaches and loss of sensitive information (Liu et al., 2022). Phishing scams are a prevalent threat, where fraudulent emails and websites are used to steal sensitive information such as login credentials and financial details (Trautman et al., 2020).

E-commerce has existed since the 1990s, when the Internet was developed for commercial users. At that time, it also attracted the attention of large businesses, taking advantage of the moment to sell online to consumers (Risberg, 2023). Over the last ten years, the trend of trading using e-commerce channels has increased (Asmare and Zewdie, 2022; Hänninen et al., 2021; Verhoef et al., 2015; Zhang et al.,



2010;). Technological developments in the economic sector and the adoption of e-commerce have created opportunities for local producers and consumers to develop their businesses. However, apart from the potential, they have also created new problems (Achmad, 2023).

For the problems resulting from the development of e-commerce in Indonesia, we present the data in **Figure 2**.



**Figure 2.** Development of e-commerce issues by year.

Source: Processed results from Nvivo12 Plus Software.

Various problems arise as a result of the development of e-commerce in Indonesia 2017 produced the problem that e-commerce could threaten the national economic defense as depicted in **Figure 2**. The growth of e-commerce has been linked to challenges faced by local businesses, particularly small and medium enterprises (SMEs), in competing with larger online retailers, which may affect economic stability and local economic defense (Priambodo et al., 2021). E-commerce growth has raised issues related to taxation, consumer protection, and data security, necessitating robust regulatory frameworks to ensure national economic defense (Dhaneswara and Melanie, 2021). Furthermore, the problem is that traditional business actors are threatened with closure due to competition from e-commerce technology. E-commerce enhances the competitiveness of businesses by improving operational efficiency, customer interaction, and data analysis. Traditional businesses must adapt to these changes to survive and thrive in the new market environment (Afiat and Rijal, 2023). The year 2020 resulted in the problem of e-commerce user data leakage, E-commerce platforms often have access to vast amounts of personal information, making data leakage a significant risk (Sun, 2022). plus the issue of competition Globalization facilitated by e-commerce has expanded market reach but also increased competition (Kumar, 2022). excessive surveillance measures by the government, which violated the freedom of e-commerce entrepreneurs to innovate. These measures often violate human rights laws by infringing on privacy and freedom of expression, which are essential for fostering an

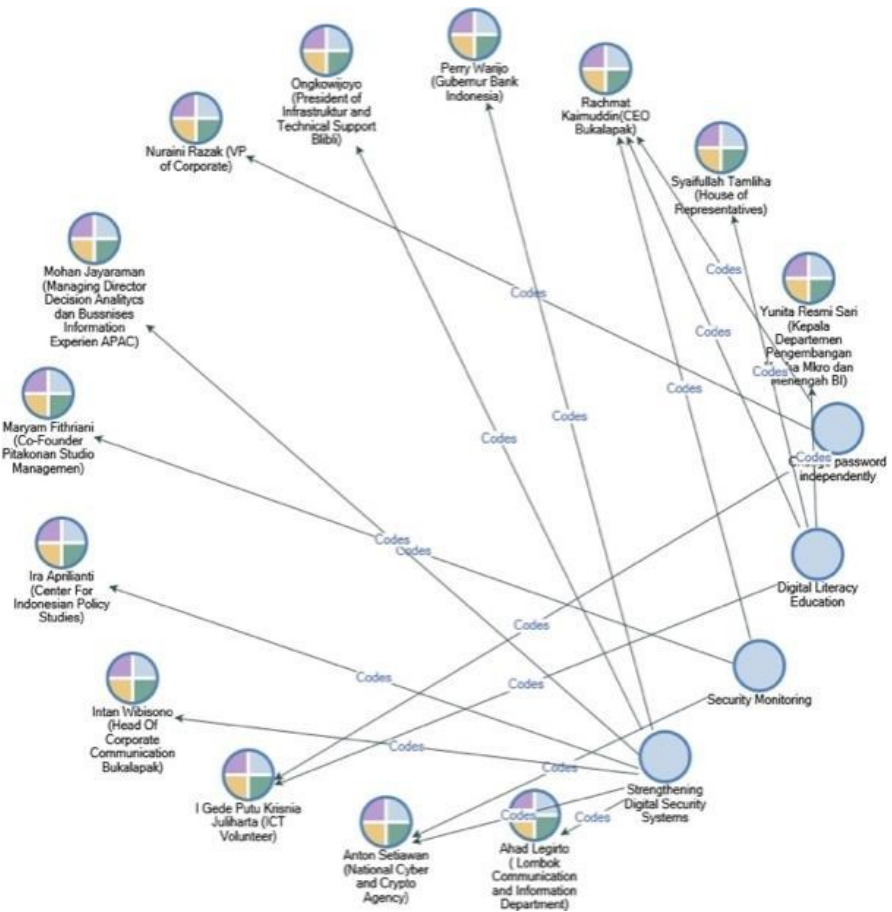
innovative e-commerce environment (Fathaigh et al., 2021). In 2022, a crucial problem will arise regarding stakeholders who have the authority to eliminate each other's responsibilities in overcoming e-commerce problems. In e-commerce implementations, stakeholders, including companies and consumers, face challenges due to unclear roles and responsibilities. Properly defined responsibilities and strategic partnerships are necessary to address these issues and improve operational efficiency (Fathaigh et al., 2021).

Marketing of products to consumers via electronic media, often called e-commerce, is increasing. The practice of buying and selling using the Internet also poses security risks. The security referred to in e-commerce is the security of consumer data. The top problem in the current e-commerce environment is the issue of security of personal data, such as names, addresses, telephone numbers, and financial information, which have the potential to be stolen or misused by irresponsible parties (Yazdanifard et al., 2011). The potential for consumer data security, such as malware, phishing, hacking, and identity theft, still varies. As the image below shows, consumers are expected to take personal safety measures in various ways.

Developing digital infrastructure in ASEAN member countries always carries out collaborative efforts. One way the economic sector cooperates is through buying and selling activities using e-commerce between countries. E-commerce promotes economic integration by enabling direct interactions between sellers and consumers across borders without intermediaries. This can lead to increased market reach and better integration of consumer markets in regions like the European Economic Area (Sleuwaegen and Smith, 2022). E-commerce can also increase industrial capacity and absorb more significant labor. E-commerce impacts local labor markets by shifting employment from traditional brick-and-mortar retail to sectors like warehousing and supercenters. This shift can lead to new employment opportunities in areas complementary to e-commerce (Bauer and Fernández Guerrico, 2023). The advancement of the internet world can help business people promote their various products and services. The old radio and print media use is gradually being abandoned, with the promotion of products and services being increasingly carried out using the Internet. Marketing of products in Indonesia using the Internet is still considered to be low by local business actors; this is due to limited resources and management of social media, which still needs to be improved in the e-commerce sector. Social media marketing can significantly influence brand image and consumer loyalty. However, many Indonesian e-commerce businesses fail to optimize their social media strategies effectively. This lack of strategic social media marketing results in missed opportunities for building customer relationships and loyalty (Khairul, 2021). Indonesian e-commerce business actors must better understand the needs of local consumers by using a local wisdom approach in offering more appropriate products and services. Indonesian consumers, particularly from younger generations, are inclined towards using e-commerce due to its simplicity and convenience. However, incorporating local cultural elements can significantly enhance their engagement and trust in e-commerce platforms (Gui et al., 2022). By prioritizing local cultural values, it will become a highly competitive product.

## 4.2. Problem solution e-commerce with actor in Indonesian

Knowledge and social media are essential for building a human civilization in the era of digitalization; humans' closeness to technology is essential to assist in solving massive problems in the world of social media (Wang et al., 2023). The problem of e-commerce in Indonesia changes every year with different nuances. This problem seems to need a solution. However, this must also be addressed. In order to overcome existing problems, several policy actors provide solution narratives in online news media as shown in **Figure 3** below.



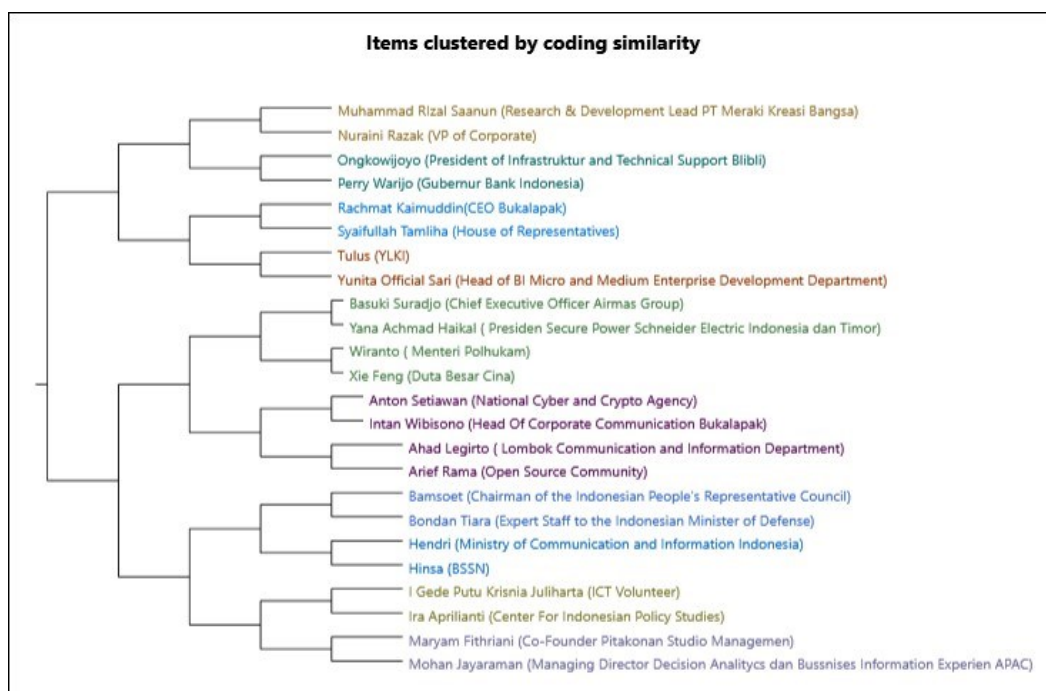
**Figure 3.** Actors who provide e-commerce solutions.

Source: Processed results from Nvivo12 Plus Software.

Four solutions offered by various national actors emerged in the social media narrative in **Figure 3**. The first solution requires independent vigilance for e-commerce users by changing account passwords. Changing account passwords regularly is a crucial independent measure for enhancing security for e-commerce users. Frequent password changes help mitigate the effects of potential data breaches or phishing attacks by limiting the timeframe in which stolen credentials can be used (Jenkins et al., 2014). In the narrative, changing passwords is an independent step to increase the security of sellers' and buyers' e-commerce accounts. The second solution is essential to increase literacy about the world of digitalization for e-commerce users; understanding the terms of the world of e-commerce can reduce misunderstandings in using e-commerce, which can have fatal consequences. Proper

digital literacy minimizes the chances of users misinterpreting terms and misusing e-commerce services, which can lead to financial losses or privacy violations (Aiswarya et al., 2022; Golla et al., 2018). The third solution is security monitoring of companies that rely on e-commerce by government officials. Government involvement in monitoring e-commerce security can increase public trust and confidence in online platforms, encouraging more people to engage in e-commerce activities (Alodhyani et al., 2020). With government oversight, there is a faster and more coordinated response to security incidents, minimizing damage and restoring trust more quickly (Akiyama et al., 2015). The fourth solution is the first solution requires independent vigilance for e-commerce users by changing account passwords. Implementing continuous monitoring systems to detect suspicious activities in real-time allows for swift responses to potential security breaches, minimizing damage and recovery time (He et al., 2022). Implementing advanced authentication methods, such as multi-factor authentication (MFA), can significantly enhance security by making unauthorized access more difficult (Pearman et al., 2017). Government collaboration with e-commerce companies must be created to overcome security problems. Government collaboration with e-commerce companies must be created to overcome security problems. Collaboration ensures that e-commerce companies adhere to strict regulatory standards and best practices for data protection and cybersecurity, reducing the risk of data breaches and fraud (Akiyama et al., 2015). Government agencies can provide resources, training, and support to e-commerce companies, helping them implement advanced security technologies and strategies. This can include sharing threat intelligence and best practices (Alodhyani et al., 2020).

Policy actors based on institutional background in providing narrative solutions to e-commerce problems can be seen in **Figure 4**.



**Figure 4.** Actors who provide solutions to e-commerce problems.

Source: Processed results from Nvivo12 Plus Software.

Various actors correlated with the development of Indonesian e-commerce provide narratives about solutions to e-commerce problems in **Figure 4**. Solutions are provided based on problems that arise from the shortcomings of e-commerce. The actors identified in this article range from government officials at the regional level to the central government. Regional government officials can provide localized support and resources to e-commerce companies, ensuring compliance with cybersecurity regulations and addressing region-specific threats (Akiyama et al., 2015). Central government authorities play a crucial role in setting national cybersecurity standards, coordinating large-scale responses to cyber threats, and providing oversight to ensure consistent implementation across regions (Han et al., 2018). The next element is from Research institutions play a vital role in analyzing how consumers use e-commerce, identifying security vulnerabilities, data leakage issues, and evaluating government supervision's effectiveness. Their insights and findings help develop strategies to address these problems and enhance the overall security of e-commerce platforms. Research institutions conduct studies to identify common security vulnerabilities in e-commerce platforms, such as weak passwords, insufficient encryption, and inadequate authentication mechanisms. These studies provide valuable data to enhance security protocols (Pearman et al., 2017). Studies conducted by research institutions assess the effectiveness of government supervision in regulating e-commerce security. They provide recommendations for improving oversight and ensuring compliance with cybersecurity standards (Aiswarya et al., 2022). The next element of company management under the e-commerce concept is Bukalapak, Tokopedia, and other company representatives. Companies like Shopee, Tokopedia, and Bukalapak have utilized various market penetration strategies to enhance their competitiveness (Putri et al., 2021). Significantly, these actors provide solutions to the public on overcoming data leakage problems, increasing e-commerce security, and regulatory solutions relevant to the government.

### 4.3. Regulations regarding consumer protection in Indonesia

Trading laws through e-commerce are considered very important, considering Indonesia's potential for business growth is increasingly high. So, the government needs to consider that society is a subject that is closely related to online business. Regulations are urgently needed to protect consumers from security. Below are several government regulations that regulate consumer protection as in **Table 2**.

**Table 2.** Indonesian regulations for dealing with e-commerce fraud.

No	Regulation
(1)	Law of the Republic of Indonesia Number 8 of 1999 concerning Consumer Protection
(2)	Law of the Republic of Indonesia Number 7 of 2014 concerning trade
(3)	Law of the Republic of Indonesia Number 19 of 2016 concerning Information and Electronic Transactions

The Law of the Republic of Indonesia Number 8 of 1999 concerning Consumer Protection represents a vital step towards ensuring fairness and equity in the Indonesian market as shown in **Table 2**. By defining clear rights and obligations,

establishing mechanisms for dispute resolution, and promoting consumer education, the law aims to protect consumers from unfair practices and enhance their confidence in the market. However, continuous efforts are required to address the challenges of awareness, enforcement, and dispute resolution efficiency. Implementing online platforms for dispute resolution can greatly enhance efficiency by providing accessible, timely, and cost-effective means to resolve disputes (Wagner and Eidenmueller, 2021). As the market evolves, the Consumer Protection Law must adapt to new consumer protection needs and remain a robust tool for safeguarding consumer interests in Indonesia. The rise of e-commerce necessitates updated regulations to protect consumers engaging in online transactions. Existing laws, such as the Consumer Protection Law (UUPK) and the Information and Electronic Transactions Law (TE Law), provide a framework but require enhancements to address digital-specific issues (Subagyo et al., 2023).

The Law of the Republic of Indonesia Number 7 of 2014 concerning Trade represents a comprehensive approach to regulating trade activities in Indonesia. By establishing clear rules and frameworks, the law aims to promote fair trade practices, protect consumer and producer interests, and enhance Indonesia's competitiveness in the global market. While significant progress has been made, ongoing efforts are needed to address enforcement challenges, adapt to global trade changes, and balance stakeholder interests. Adapting to global trade changes involves addressing enhanced enforcement tools and compliance challenges. Trade compliance risk assessments can help companies confront these challenges effectively (Bell, 2017). As Indonesia continues to integrate into the global economy, the Trade Law will play a crucial role in shaping a sustainable and prosperous trade environment. While financial development helps improve environmental quality, trade liberalization can lead to environmental degradation. Policymakers must ensure that trade policies support sustainable practices (Ridzuan et al., 2022).

The Law of the Republic of Indonesia Number 19 of 2016 concerning Information and Electronic Transactions represents a significant effort to regulate the digital environment in Indonesia. It provides a comprehensive framework for promoting e-commerce, enhancing cybersecurity, and protecting consumer rights in electronic transactions. Legal frameworks ensure that consumer rights are upheld in both domestic and international e-commerce transactions, although there are challenges in protecting consumers across borders (Nainggolan et al., 2023). While the law has made notable strides, ongoing efforts are required to address its ambiguities, safeguard privacy rights, and ensure effective enforcement. Enhancing the capacity and infrastructure of law enforcement agencies is crucial to ensure the effective implementation of electronic transactions law (Herryani, 2023). As technology continues to evolve, the ITE Law will need to adapt and evolve to remain relevant and effective in protecting the interests of all stakeholders in Indonesia's digital ecosystem.

## **5. Conclusion**

The development of e-commerce in Indonesia has given rise to various problems. The problems that arise are evidence that the e-commerce environment

provides a double reaction to e-commerce. Some of the problems when e-commerce develops are consumer data leaks and fraud in e-commerce transactions. The development of e-commerce in the past was still stagnant due to the potential for data leaks. Apart from that, several government actors, community organizations and research institutions are also helping to solve e-commerce problems. The solutions offered include new regulations and increased personal security which can create security in the e-commerce environment. This research provides a theoretical contribution to the study of e-commerce that technology-based e-commerce trade models must have full support in a country, adaptation to government policies is important, because the government with its policies can solve e-commerce problems and solutions more quickly. This research only looks at national e-commerce issues, and the data is still limited to two media. Future research needs to consider e-commerce analysis from the dimensions of community response at the regional level.

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